

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A communication system including a first communication terminal, a second communication terminal, each of which having a changeable address, and a communication control server, the communication control server notifying destination information for specifying an address of the first communication terminal on a network in response to a request, the first communication terminal requesting the communication control server to register one or more communication terminals that are permitted to connect to the first communication terminal as connection-permitted communication terminals, by storing identification information of the one or more communication terminals, and the second communication terminal transmitting a request message to the communication control server to request a current address ~~of the first communication terminal, wherein the request includes identification information of the second communication terminal, and receiving the current address from the communication control server if the second communication terminal is permitted to connect to the first communication~~ as the destination information of the first communication terminal,

the communication control server comprising:

a permitted-terminal table storage unit operable to store a permitted-terminal table that shows, for each communication terminal, a correlation between the corresponding communication terminal and the identification information of one or more connection-permitted communication terminals, and that includes at least the information registered by the corresponding communication terminal;

a request message reception unit operable to receive the request message;

a terminal determination unit operable to determine, based on the permitted-terminal table, whether or not the second communication terminal, which transmitted the received request message, is a connection-permitted communication terminal of the first communication terminal; and

a notification control unit operable to notify the second communication terminal of the current address as the destination information of the first communication terminal, only when the second communication terminal has been determined to be a connection-permitted communication terminal of the first communication terminal, wherein

the permitted terminal table includes at least information registered by the corresponding communication terminal, and

the second communication terminal receives the destination information from the communication control server if the second communication terminal is permitted to connect to the first communication terminal, and then connects, independently of the communication control server, to the current address shown by the received destination information.

2. (Previously Presented) The communication system of Claim 1, wherein the notification control unit includes:

an authentication information creation sub-unit operable, only when the second communication terminal has been determined to be a connection-permitted terminal of the first communication terminal, to create authentication information for the first communication terminal to authenticate the second communication terminal,

the notification control unit further notifies the authentication information to the first communication terminal and the second communication terminal,

the second communication terminal transmits the notified authentication information to the first communication terminal when making a connection request to the first communication terminal, and

the first communication terminal comprises:

a reception unit operable to receive the authentication information from the second communication terminal;

a determination unit operable to determine whether or not the received authentication information and the notified authentication information match; and

a connection control unit operable to permit a connection from the second communication terminal, only when the received authentication information and the notified authentication information match.

3. (Original) The communication system of Claim 1, wherein the notification control unit includes:

an encrypt key creation unit operable to create an encrypt key for encryption and decryption of information transmitted between the first communication terminal and the second communication terminal, and
the notification control unit further notifies the encrypt key to the first communication terminal and the second communication terminal.

4. (Previously Presented) The communication system of Claim 1, wherein

the notification control unit further, before notifying the second communication terminal of the destination information of the first communication terminal, transmits a query message to the first communication terminal, the query message querying as to whether or not the first communication terminal is able to accept a connection from the second communication terminal, the first communication terminal comprises:

a reception unit operable to receive the query message; and

a connection acceptability notification unit operable to determine, according to a load state upon receiving the query message, whether or not the connection from the second communication terminal is able to be accepted, and notify the communication control server of an acceptability notification message that shows a result of the determination,

the notification control unit includes:

a connection acceptability determination sub-unit operable to determine, based on the notified acceptability notification message, whether or not the first communication terminal is in a state of being able to accept the connection from the second communication terminal, and

when the first communication terminal is in a state of being able to accept the connection, the notification control unit notifies the second communication terminal of the destination information.

5. (Previously Presented) The communication system of Claim 4, wherein

when the second communication terminal is determined not to be a connection-permitted terminal of the first communication terminal, the notification control unit notifies the second

communication terminal of a notification message showing that the second communication terminal is not permitted to connect to the first communication terminal, and

when the first communication terminal is in a state of being unable to accept the connection from the second communication terminal, the notification control unit notifies the second communication terminal that the first communication terminal is unable to accept the connection.

6. (Currently Amended) A communication terminal that is connected to a communication control server over a network and has a changeable address, said communication terminal comprising:

a permitted-communication terminal registration request unit operable to make a request, to the communication control server, to register other communication terminals, by respective identification information, that are permitted to connect to said communication terminal;

an authentication information reception unit operable, when a second communication terminal, which has requested destination information for specifying a current address of said communication terminal on the network, is any one of the communication terminals that are permitted to connect to said communication terminal, to receive authentication information for authenticating the second communication terminal, the authentication information being generated and transmitted by the communication control server;

an identification information reception unit operable to receive, from the second communication terminal, a connection acceptance request and identification information that identifies the second communication terminal;

a determination unit operable to determine whether or not the authentication information and the identification information match; and

a connection control unit operable to permit a connection based on the connection acceptance request from the second terminal, only when the authentication information and the identification information match.

7. (Previously Presented) The communication terminal of Claim 6, wherein
the identification information reception unit further, before the connection acceptance

request is transmitted, receives a query message from the communication control unit, the query message querying whether or not a connection from the second communication terminal, which requested the destination information is able to be accepted, and

the connection control unit determines whether or not the connection from the second communication terminal is able to be accepted according to a load state upon receiving the query message, and notifies the communication control server of a result of the determination.

8. (Previously Presented) The communication terminal of Claim 7, wherein

the identification information reception unit, when said communication terminal is in a state of being unable to accept the connection from the second communication terminal, receives a transfer ask notification message from the communication control server, the transfer ask notification message notifying that a communication data transfer ask has been made by the second communication terminal, and

said communication terminal further comprises:

a communication data acquirability determination unit operable to determine, according to a load state, whether or not said communication terminal has come to be in a state of being able to acquire the communication data;

a transfer request message transmission unit operable, when said communication terminal has come into a state of being able to acquire the communication data after the transfer ask notification message has been received, to transmit a transfer request message that requests transfer of the communication data; and

an acquisition unit operable to acquire the communication data transmitted from the communication control server in response to the transfer request message.

9. (Previously Presented) The communication terminal of Claim 6, further comprising:

a storage unit operable to store a plurality of types of communication data potentially transmitted to a callee communication terminal, each type of communication data being stored in correspondence with a respective data attribute thereof;

a transmission unit operable to transmit a request message to the communication control

server, the request message requesting destination information for specifying the address of a callee communication terminal on the network;

an acquisition unit operable to obtain the destination information notified by the server, only when said communication terminal is permitted to connect to the callee terminal;

a connection establishment unit operable to establish a connection with the callee communication terminal based on the acquired destination information;

a designation reception unit operable to receive a designation of communication data to be transmitted;

a data attribute determination unit operable to determine whether or not the designated communication data has a specific data attribute;

a transfer ask unit operable, when the designated communication data has the specific data attribute, to ask the communication control server to transfer the designated communication data to the callee communication terminal; and

a transmission control unit operable to control transmission such that (i) when the designated communication data has the specific data attribute, the designated communication data is transmitted to the communication control server, and (ii) when the designated communication data does not have the specific data attribute, the designated communication data is transmitted directly to the callee terminal.

10. (Previously Presented) The communication terminal of Claim 9, wherein the transmission control unit includes:

an extraction sub-unit operable, when the designated communication data is MPEG-encoded video data, to extract an I picture from the video data; and

an encryption sub-unit operable to encrypt the extracted I picture, the transfer ask unit asks that the encrypted I picture be transferred to the callee communication terminal, and

the transmission control unit transmits the encrypted I picture to the communication control server, and transmits remaining video data excluding the I picture directly to the connected callee communication terminal.

11. (Original) The communication terminal of Claim 9, wherein
the data attributes show whether or not the communication data is secret,
the transfer ask unit, when the data attribute of the designated communication data shows that the designated communication data is secret, asks the communication control server to transfer the designated data to the callee communication terminal, and
the communication control unit, when the data attribute of the designated communication data shows that the designated communication data is secret, encrypts the designated communication data, and transmits the encrypted designated communication data to the communication control server.
12. (Original) The communication terminal of Claim 6, wherein
the address is an IP address.
13. (Original) The communication terminal of Claim 6, wherein
the address is composed of an IP address and a port number.
14. (Original) The communication terminal of Claim 6, wherein
the address changes from time to time.
15. (Previously Presented) A communication control server that notifies destination information for specifying an address of a communication terminal that has a changeable address, comprising:
a permitted-terminal table storage unit operable to store a permitted-terminal table that shows, for each communication terminal, a correlation between the corresponding communication terminal and one or more connection-permitted communication terminals that are permitted to connect to the corresponding communication terminal, according to identification information received from the communication terminals;
a request message reception unit operable to receive a request message from a first communication terminal, the request message including identification information of the first

communication terminal and requesting the destination information of a second communication terminal;

a terminal determination unit operable to determine, based on the identification information stored in the permitted terminal table, whether or not the first communication terminal is a connection-permitted communication terminal that is permitted to connect to the second communication terminal; and

a notification control unit operable to notify the first communication terminal of the current address of the second communication terminal, only when the first communication terminal is determined to be a connection-permitted communication terminal that is permitted to connect to the second communication terminal,

wherein the permitted-terminal table includes at least information registered by the corresponding communication terminal.

16. (Canceled)

17. (Currently Amended) A computer-readable recording medium on which is recorded a connection control computer program for causing a first communication terminal that is connected to a communication control server over a network and has a changeable address connected to a communication control server over a network to perform at least:

a permitted-communication terminal registration request step of making a request, to the communication control server, to register other communication terminals that are permitted to connect to the first communication terminal;

an authentication information reception step of, when a second communication terminal, which has requested destination information for specifying an address of the first communication terminal on the network, is any one of the communication terminals that are permitted to connect to the first communication terminal, receiving authentication information for authenticating the second communication terminal, the authentication information being generated and transmitted by the communication control server;

an identification information reception step of receiving, from the second communication

terminal, a connection acceptance request and identification information that identifies the second communication terminal;

a determination step of determining whether or not the authentication information and the identification information match; and

a connection control step of permitting a connection based on the connection acceptance request from the second communication terminal, only when the authentication information and the identification information match.

18. (Currently Amended) A connection control method used in a first communication terminal that is connected to a communication control server over a network and has a changeable address, connected to a communication control server over a network, the connection control method comprising:

a permitted-communication terminal registration request step of making a request, to the communication control server, to register other communication terminals that are permitted to connect to the first communication terminal;

an authentication information reception step of, when a second communication terminal, which has requested destination information for specifying an address of the first communication terminal on the network, is any one of the communication terminals that are permitted to connect to the first communication terminal, receiving authentication information for authenticating the second communication terminal, the authentication information being generated and transmitted by the communication control server;

an identification information reception step of receiving, from the second communication terminal, a connection acceptance request and identification information that identifies the second communication terminal;

a determination step of determining whether or not the authentication information and the identification information match; and

a connection control step of permitting a connection based on the connection acceptance request from the second communication terminal, only when the authentication information and the identification information match.

19. (New) The communication control server of Claim 15, wherein
the notification control unit includes an authentication information creation subunit,
the authentication information creation subunit creates authentication information for the
second communication terminal to authenticate the first communication terminal, only when the first
communication terminal is the connection-permitted communication terminal that is permitted to
connect to the second communication terminal, and
the notification control unit further notifies the first communication terminal and the second
communication terminal of the authentication information.